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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/599,275	06/22/2000	Fraser Edwards	585-1009	7882
23644	7590	11/16/2004	EXAMINER	
BARNES & THORNBURG			TRAN, KHAI	
P.O. BOX 2786			ART UNIT	
CHICAGO, IL 60690-2786			PAPER NUMBER	
			2637	

DATE MAILED: 11/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/599,275

Applicant(s)

EDWARDS ET AL.

Examiner

KHAI TRAN

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/19/04.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-67 is/are pending in the application.
- 4a) Of the above claim(s) 34-38 and 44-46 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-33, 39-43 and 47-59 is/are allowed.
- 6) ☒ Claim(s) 60-62 is/are rejected.
- 7) ☒ Claim(s) 63-67 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendment filed 8/19/04 has been entered. Claims 1-33, 39-43, 47-67 are pending in this Office action.

Election/Restrictions

2. Claims 34-38, 44-46 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 5. Therefore, **claims 34-38, 44-46 should have been canceled.**

Claim Rejections - 35 USC § 112

3. Claims 60-67 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 60-67 recite only a cellular radio communication system for applying a modulation scheme and forward error correction. Such claim, consequently, is considered as a single means since a means for applying a modulation scheme and forward error correction does not seem to appear in combination with another recited element of means. Consequently, such claim is held non-enabling. See MPEP 216.08(a).

Claim Rejections - 35 USC § 102

4. Claims 60-62 remain rejected under 35 U.S.C. 102(e) as being anticipated by Cobb et al (U.S. Pat. 6,606,357).

Regarding claim 60, Cobb et al disclose a cellular phone communication for transmitting data over transmission links, wherein different modulation scheme and forward error coding level pairs are dynamically allocated to the transmission links so as to give an optimum data rate at a predetermined bit error and a predetermined symbol rate (i.e., QPSK scheme and forward error correction (FEC), see col. 6, line 33 to col. 7, line 9).

Regarding claims 61-62, Cobb et al disclose wherein the different modulation scheme and forward error correction coding level pairs are dynamically depending on the quality of the transmission links (col. 7, lines 36-52); and the transmission links are links between a plurality of end user terminals located within a cell and base station located within the cell (see Figure 3).

Allowable Subject Matter

5. Claims 1-33, 39-43, 47-59 are allowed.

6. Claims 63-67 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: none of the prior art of the record discloses a cellular radio communication

system comprising means for interrogating the data and allocating a modulation scheme and forward error correction coding level pair to the blocks of data transmitted over a transmission link dependent on the monitored quality of the transmission link.

Response to Arguments

8. Applicant's arguments filed 8/19/04 have been fully considered but they are not persuasive.

Applicant states that the Cobb reference fails to disclose or suggest of any adaptive modulation scheme, and dynamic allocation of different modulation scheme and forward error correction coding level pair. This provides optimized data rate with low bit error rates for the prevailing transmission conditions.

Response to the Applicant's argument that Cobb discloses a cellular phone communication for transmitting data over transmission links, wherein different modulation scheme and forward error coding level pairs are dynamically allocated to the transmission links so as to give an optimum data rate at a predetermined bit error and a predetermined symbol rate (i.e., QPSK scheme and forward error correction (FEC), see col. 6, line 33 to col. 7, line 9), and Cobb also disclose that the invention directed to a new and improve modulation scheme that is especially suited for QPSK based satellite communication system. In addition, the injected carrier-based modulation scheme of the invention exploits the substantially improved performance of the modern forward error correction codes, and significantly reduces the signal power required for achieving a relatively low bit error rate (col. 1, lines 9-22).

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAI TRAN whose telephone number is (571) 272-3019. The examiner can normally be reached on 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JAY PATEL can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

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have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



KHAI TRAN
Primary Examiner
Art Unit 2637

11/10/04
